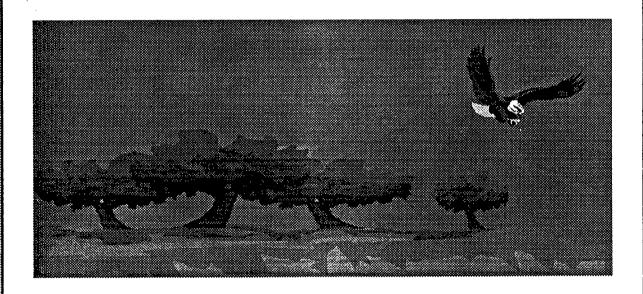
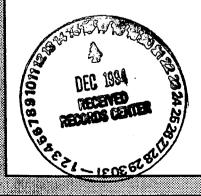


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ENVIRONMENTAL RESTORATION PROGRAM

Monthly Report For May, 1992





June 20, 1992

SEGE ROCKY FLATS

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT

ENVIRONMENTAL RESTORATION PROGRAM

MONTHLY REPORT FOR MAY 1992

TABLE OF CONTENTS

1.0	intro	duction 1	
2.0	Exec 2.1	Sutive Summary	
	2.2	Problems and Programmatic Issues 4	
	2.3	Near-Term IAG Milestones 5	
3.0	Proje 3.1	Oct Status 7 OU 1 - 881 Hillside Area 7 3.1.1 OU 1 Assessment 7 3.1.2 OU 1 Remediation 9	
	3.2	OU 2 - 903 Pad, Mound, and East Trenches 11 3.2.1 OU 2 Assessment 11 3.2.2 OU 2 Remediation 13	
	3.3	OU 3 - Offsite Areas	
	3.4	OU 4 - Solar Evaporation Ponds	
	3.5	OU 5 - Woman Creek	
	3.6	OU 6 - Walnut Creek	
	3.7	OU 7 - Present Landfill	
	3.8	OU 8 - 700 Area 24	
	3.9	OU 9 - Original Process Waste Lines	
	3.10	OU 10 - Other Outside Closures	
	3.11	OU 11 - West Spray Field	
	3.12	OU 12 - 400/800 Area 31	
	3.13	OU 13 - 100 Area	
	3.14	OU 14 - Radioactive Sites	
	3.15	OU 15 - Inside Building Closures	
	3.16	OU 16 - Low Priority Sites 39	
	3.17	Sitewide (SW) Activities 40	
4.0 5.0		ine Environmental Monitoring	

1.0 INTRODUCTION

This monthly status report presents the current status and technical achievements of the Rocky Flats Environmental Restoration Program for May 1992. This program implements the Interagency Agreement (IAG) between the U.S. Department of Energy, the U.S. Environmental Protection Agency, and the State of Colorado to investigate, assess, and remediate, where necessary, contaminated areas at or adjacent to DOE's Rocky Flats Plant in Golden, Colorado. This agreement was signed on January 22, 1991. The work is being performed for DOE by EG&G Rocky Flats, Inc.

Section 2.1 of this report highlights significant achievements and summarizes the milestones completed during May. Section 2.2 presents any major unresolved issues of the program. Technical progress, schedule status, and milestone status for each Operable Unit as well as other program activities are presented in Section 3.0. Operable Units will be reported on as work in them commences. Section 4.0 contains the schedules for routine environmental sampling as required by paragraph 210 of the Interagency Agreement. Section 5.0 contains a list which identifies the contractors and subcontractors performing work on the program as required by paragraph 13 of the IAG.

2.0 EXECUTIVE SUMMARY

2.1 SIGNIFICANT ACTIVITIES AND ACHIEVEMENTS FOR MAY 1992

Preparation of the OU 1 RI report continued. DOE/RFO submitted to EPA and CDH a request for schedule extension on the OU 1 IAG milestone on May 21, 1992. The request is based on the concerns with lab turnaround times and the ability to obtain validated data in a timely manner in order to analyze the data for the report. The regulatory agencies are discussing the request for extension.

The OU 1 881-Hillside French Drain Monitor Plan and Mitigation Plan, as required by EPA and CDH as a condition to truncate the French Drain, has been revised to reflect agency comments and is being reviewed by DOE and the regulatory agencies.

The OU 1 881 Hillside French Drain pumping system continues to be operational, and a new sediment filtration unit was installed at the collection sump. The filter will remove sediment from the groundwater prior to its treatment at Building 891. Decontamination efforts were initiated for Effluent Tank 205 which had been previously used for influent water storage due to excessive quantities of groundwater within the french drain. OU 1 Building 891 area final grading is complete, and revegetation, seeding and mulching, on the 881 Hillside was completed May 20, 1992. Successful germination and growth was observed on May 26, 1992.

The field crew on OU 2 RFI/RI Assessment is finishing up geologic core logging, sample and data management duties, and other demobilization tasks. The scheduled completion date of these tasks is June 12, 1992.

The OU 2 Draft Proposed Subsurface Interim Measures/Interim Remedial Action Plan/Environmental Assessment and Decision Document (IM/IRA/EA) is in a 60 day public comment period. The public comment period was scheduled to end on May 18, 1992 and was extended by DOE/RFO at the public's request to June 5, 1992.

The final copy of the OU 2 South Walnut Creek Treatability Study Report is being prepared. The final document is due to the regulatory agencies on June 2, 1992.

Activities preparing for OU 3 field work continue. The contract for the OU 3 RI field work was finalized. Development of an approved Health and Safety Plan (HSP) for the field work is the critical path in the schedule to start the field work. With a reasonably quick development of the approved HSP, field work could start June 22, 1992. On May 8, 1992, DOE/RFO authorized EG&G to begin seasonally required field sampling on OU 3. The next working day, May 11, 1992, sediment sampling began on Great Western Reservoir.

CDH granted conditional approval of the Final Phase I RFI/RI Work Plan for OU 4 in a letter to DOE/RFO dated May 8, 1992.

Pond sludge chemical stabilization and solidification equipment for the OU 4 Pondcrete project was selected. The processing formula was set. Treatability studies will be completed during the first week in June, when sensitivity of key parameters are established and validated. Modular tank construction is progressing: the cement foundation rings have been poured.

The proposal for OU 5 Phase I RFI/RI Work Plan implementation was received on May 18, 1992.

OU 6 Phase I RFI/RI Work Plan revisions have been made that respond to CDH's comments, as required in the conditional EPA approval of the Work Plan.

CDH sent a Notice of Violation letter to DOE/RFO and EG&G on May 22, 1992 concerning alleged deficiencies in the Draft Phase I RFI/RI Work Plan for OU 8 caused by Procurement delays. CDH has given DOE and EG&G until June 22, 1992 to correct these alleged deficiencies in the OU 8 Work Plan and submit a revised Work Plan to CDH and EPA for review.

EG&G Procurement subcontract activities for OU 9 are currently at a standstill pending the resolution of the Organizational Conflict of Interest (OCI) issue regarding implementation of a Work Plan prepared by the same subcontractor. DOE/RFO Procurement has indicated subcontractors preparing Work Plans would have an OCI in performing the work to follow.

A letter from CDH giving conditional approval of the RFI/RI Work Plan for OU 11 was received on May 26,1992.

The draft RFI/RI Work Plan for OU 12 was submitted to the regulatory agencies on May 8, 1992, meeting the IAG milestone.

The draft RFI/RI Work Plan for OU 13 was submitted to EPA and CDH on May 15, 1992, as required under the IAG.

A milestone extension for submittal of the OU 14 Draft Phase I RFI/RI Work Plan to the regulatory agencies was received on May 14, 1992. The new milestone date is June 26, 1992.

On May 27, 1992, the draft Phase I RFI/RI Work Plan for OU 15 was transmitted to EPA and CDH, five days ahead of the IAG milestone date, June 1, 1992.

The contract was awarded May 19, 1992 to prepare the final OU 16 "No Further Action Justification Document".

A meeting was conducted on May 20, 1992 for the Technical Review Group (TRG) during which an overview of OU 8, OU 12, OU 13, OU 14 and OU 15 were presented. Also discussed was an overview of the draft RFI/RI Work Plans for each of the OUs.

2.2 PROBLEMS AND PROGRAMMATIC ISSUES

Present lab turnaround durations will significantly impact the IAG schedule. Currently estimated durations are 90 days for metals and water quality parameters, 105 days for VOAs and a minimum of 420 days for radioactive isotope samples. Current IAG schedules were developed using an assumption of 63 days turnaround. All efforts to expedite turnaround times are being pursued.

Spent GAC and treatment residuals are being stored improperly in the OU 2 area. Resolution of this issue with Waste Programs in order to comply with RCRA requirements is being discussed.

Remedial actions required under the 1985 McKay v. U.S. Settlement Agreement for the OU 3 Offsite Areas may be in conflict with CERCLA. Tilling of the land surface to mix plutonium contaminated surface soil, as required under the Settlement Agreement, prior to completion of the RI/FS will probably not be allowed by EPA. The remedial action as determined by the RI/FS process, if any, will

probably not include plutonium soil mixing through tilling.

The delay in removal of sludge from the solar ponds and the requirement for an IM/IRA for the surge tanks has impacted the IAG scheduled start of the RFI/RI field activities in January 1992. Although the start of field activities is not an IAG milestone, the impact from the delayed start to the IAG milestone for delivery of the OU 4 RFI/RI Report is being evaluated.

CDH sent a Notice of Violation letter to DOE/RFO and EG&G on May 22, 1992 concerning alleged deficiencies in the Draft Phase I RFI/RI Work Plan for OU 8 caused by Procurement delays. CDH has given DOE and EG&G until June 22, 1992 to correct these alleged deficiencies in the OU 8 Work Plan and submit a revised work plan to CDH and EPA for review.

EG&G Procurement subcontract activities for OUs 6 and 9 are currently at a standstill pending the resolution of the Organizational Conflict of Interest (OCI) issue regarding implementation of a Work Plan prepared by the same subcontractor. RFO Procurement has indicated subcontractor's preparing Work Plans would have an OCI in performing the work to follow. However, other DOE locations consider that it is cost effective to use the same subcontractors to prepare Work Plans and the subsequent work.

Western Aggregate has submitted a request to DOE to mine the mineral resources, to which they own the rights, and are located under a portion of the western edge of the Rocky Flats Plant. The land in question is located within OU 11 - West Spray Field. DOE has had preliminary discussions with EPA on this matter, and EPA agrees with DOE that a decision for any mining operations should be delayed until the OU assessment is complete. DOE legal staff is reviewing the request from Western Aggregate. A meeting between the parties was held in September. The DOE Realty Officer is negotiating a mineral rights exchange which is tentatively scheduled to be completed in the Summer of 1992.

2.3 NEAR-TERM IAG MILESTONES

OU#	Milestone Description	Scheduled Completion	Actual Completion
01	Complete IM/IRA Construction (French drain)	13 Apr 92	13 Apr 92
02	Complete IM/IRA Construction (Rads Removal System)	24 Apr 92	24 Apr 92
02	Begin Field Treatability Testing (Rads Removal System)	27 Apr 92	27 Apr 92
08	Submit Draft Phase I RFI/RI Work Plan	01 May 92	01 May 92
10	Submit Final Phase I RFI/RI Work Plan	01 May 92	01 May 92
12	Submit Draft Phase I RFI/RI Work Plan	08 May 92	08 May 92
13	Submit Draft Phase I RFI/RI Work Plan	15 May 92	15 May 92
14	Submit Draft Phase I RFI/RI Work Plan	22 May 92	22 May 92
15	Submit Draft Phase I RFI/RI Work Plan	01 Jun 92	27 May 92
02	Submit Final Treatability Test Report (GAC)	02 Jun 92	
SW	Submit Final Historical Release Report	03 Jun 92	

3.0 PROJECT STATUS

3.1 OU 1 - 881 HILLSIDE AREA

DESCRIPTION:

The alluvial ground water at the 881 Hillside Area, located north of Woman Creek in the southeast section of Rocky Flats Plant, was contaminated in the 1960s and 1970s with solvents and radionuclides. The area is almost two miles from the eastern, outer edge of the plant's buffer zone at Indiana Street. The various Individual Hazardous Substance Sites (IHSSs) that make up OU 1 are being investigated and treated as high-priority sites because of elevated concentrations of organic compounds in the near-surface ground water and the proximity of the contamination to a drainage system leading to an offsite drinking water supply. The selected Interim Remedial Action (IRA) at OU 1 involved the construction of an underground drainage system called a French drain that intercepts and contains contaminated ground water flowing from the OU 1 area. The contaminated water is being treated at the 891 treatment facility, designed for this purpose, and released onsite into the South Interceptor Ditch alongside Woman Creek. IRA construction was completed in Spring 1992. The remedial investigation and feasibility study (RI/FS) to determine the final remedial action are continuing in parallel with the IRA.

3.1.1 OU 1 ASSESSMENT

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase III RFI/RI Work Plan Submit Final Phase III RFI/RI Work Plan 06 Feb 90 31 Oct 90

MAY WORK ACTIVITY STATUS:

Preparation of the OU 1 RI report continued. Analysis of data and incorporation into the report is ongoing.

DOE/RFO submitted to EPA and CDH a request for schedule extension on the OU 1 IAG milestones on May 21, 1992. The request is based on the concerns with lab turnaround times and the ability to obtain validated data in a timely manner in order to analyze the data for the report. The regulatory agencies are discussing the request for extension.

PLANNED WORK FOR JUNE:

Data evaluation required to generate the RI report is scheduled to continue through June 1992.

The draft RI report is scheduled to be submitted to DOE for internal review and comments on June 2, 1992. Comments are due back on June 30, 1992 for incorporation before the July 30, 1992 submittal to EPA and CDH.

PROBLEMS: None

OPEN ITEMS:

Response to DOE's request for extension of the milestone for the draft RFI/RI Report.

3.1.2 OU 1 REMEDIATION

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

The western end of the french drain was truncated 500 feet short of the original design. EPA and CDH requested a French Drain Monitoring and Mitigation Plan be implemented as a condition of the agreement to truncate the french drain. Work added as part of the Monitoring and Mitigation Plan includes: 11 wells drilled and monitored, monitoring on 2 wells previously drilled, 3 sample stations (sumps), and 8 surface water monitoring stations. Also, water quality data for all the added work will be analyzed quarterly for 2 quarters and then re-evaluated by the regulatory agencies. The cost impact for the change in activities is being evaluated.

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Proposed IM/IRA Decision Document	18 Sep 89
Submit Proposed IM/IRA Decision Document	06 Oct 89
Submit Final IM/IRA Decision Document	05 Jan 90
Begin Phase I-A IM/IRA Construction	15 Jan 90
Restart Phase I-A IM/IRA Construction (after shutdown)	20 Jun 90
Begin Phase I-B IM/IRA Construction (ahead of schedule)	28 Sep 90
Submit IM/IRA Implementation Document	22 Feb 91
Begin Phase II-A IM/IRA Construction	01 Apr 91
Begin IM/IRA Testing	05 Aug 91
Begin Phase II-B IM/IRA Construction	03 Sep 91
Complete IM/IRA Construction	02 Mar 92

MAY WORK ACTIVITY STATUS:

The French Drain Monitor Plan and Mitigation Plan, as required by EPA and CDH as a condition to truncate the 881 Hillside French Drain, has been revised to reflect agency comments and is being reviewed by DOE and the regulatory agencies.

Building 891 area final grading is complete. Revegetation, seeding and mulching, on the 881 Hillside was completed May 20, 1992. Successful germination and growth was observed on May 26, 1992.

The french drain pumping system continues to be operational, and a new sediment filtration unit was installed at the collection sump. The filter will remove sediment from the groundwater prior to its treatment at Building 891.

Decontamination efforts were initiated for Effluent Tank 205 which had been previously used for influent water storage due to excessive ground water in the french drain.

Based on start up results for the French Drain Treatment System modifications were started and completed during May to install a bypass line on the recirculation line so that the influent pump on the ion exchange system can be used to recirculate water on each effluent tank without passing through the

treatment system. This will give a means for mixing each effluent tank individually so that pH adjustments can be made and it will reduce the formation of vertical concentration gradient. The stratification has been appearing due to stagnation in the tank and variations in density.

Piping modifications were completed to allow for the installation of the gamma sensing equipment. After installation and calibration of the gamma sensor, work will be initiated to determine whether the output from the gamma sensor can be substituted for analytical radionuclide laboratory analyses as criteria for discharging water out of the effluent tanks. If it can be substituted, it would increase the treatment system capacity by reducing the hold time for the effluent water.

Elevated levels of 2-Butanone (greater than 50 ppb) in the neutralization tank (Tank 210) were reported in recent laboratory reports. The source of this contamination was traced back to construction activities that involved using PVC cement containing 2-Butanone on the process piping.

Damage to the Buffer Zone Security Fence from slumping was repaired and completed May 21, 1992.

Excursions of pH in the effluent tanks is believed to be due to inadequate regeneration. At this time, it is thought that the treatment system did not regenerate the fourth ion exchange column due to limitations in the caustic pump. Discussions with the pump manufacturer have indicated that both the acid and the caustic tanks are installed too low relative to the pumps and that only half the capacity of each tank can be utilized. Water levels in the french drain are being monitored and there is capacity to store water in the influent tanks should water levels begin to rise.

Effluent Tank 206 has been neutralized and will be sampled. Based on previous samples, it appears likely that this water will have to be retreated for total dissolved solids.

PLANNED WORK FOR JUNE:

Continued operation of the french drain and treatment building.

Start installation of french drain monitoring wells.

PROBLEMS: None

3.2 OU 2 - 903 PAD, MOUND, AND EAST TRENCHES

DESCRIPTION:

The contamination at the 903 Pad and Mound areas is largely attributed to the storage in the 1950s and 1960s of waste drums that corroded over time, allowing hazardous and radioactive material to leak into the surrounding soil. Additional contamination may have resulted from wind dispersion during drum removal and soil movement activities. The East Trenches Area was used for disposal of plutonium- and uranium-contaminated waste and sanitary sewage sludge from 1954 to 1968. Two areas adjacent to the trenches were used for spray irrigation of sewage treatment plant effluent, some of which may have contaminants that were not removed by the treatment system.

An Interim Measures/Interim Remedial Action (IM/IRA) provides for surface water in source areas of contamination to be collected, treated, and discharged to the surface water drainage. Operation of a field-scale treatability unit for the South Walnut Creek drainage provides treatment for volatile organic compounds with granular activated carbon (GAC) which began in May, 1991. The effectiveness of the treatment process will be evaluated at three locations: the entrance to the treatment facility, several points within the facility, and the discharge point. A radionuclide removal system was added to the system for removal of radionuclides in April 1992. After completion of the field-scale treatability tests, the unit is anticipated to remain in service until the final remedial action is operational. The RI and FS are continuing in parallel with the IRA.

A second IM/IRA was established in late-1991 after the Woman Creek IRA "No Action" alternative recommended by DOE/RFO was rejected by the public, EPA and CDH. This Proposed Subsurface Investigation (Woman Creek) IM/IRA proposes to employ vapor extraction treatment of organic compounds in the vadose zone as a field pilot test. This technology will be implemented at the 903 Pad, The Mound Area, and the East Trenches Area: The purpose of the project will be to determine the effectiveness of the technology for the geologic and environmental conditions. As of May, 1992 the proposed IM/IRA Decision Document is in comment resolution.

3.2.1 OU 2 ASSESSMENT

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase II RFI/RI Work Plan (Aliuvial)	21 Dec 89
Submit Final Phase II RFI/RI Work Plan (Alluvial)	12 Apr 90
Submit Draft Phase II RFI/RI Work Plan (Bedrock)	05 Feb 91
Submit Final Phase II RFI/RI Work Plan (Bedrock)	02 Jul 91

MAY WORK ACTIVITY STATUS:

The field crew is finishing up geologic core logging, sample and data management duties, and other demobilization tasks. The scheduled completion date of these tasks is June 12, 1992.

Drill cuttings from field activities are being stored in drums. In an agreement with the regulatory agencies, drums that are not within an IHSS may stay in the field until sample analyses is complete; the drums will then be disposed of accordingly. Drums within IHSS locations must be moved to a temporary transfer point and then to permanent storage. Approximately 216 drums have been identified from IHSS locations and will be moved.

Site #1 pump and tracer test was completed on May 5, 1992. The Site #3 pump is encountering pump problems due to low flow rates. Water collected during the pump test is being sampled and then will be transported to the decontamination pad and eventually to the heat evaporator at Building 374.

PLANNED WORK FOR JUNE:

Demobilization from field activities is scheduled to be completed June 12, 1992.

Data evaluation required to generate the RI report is scheduled to continue.

PROBLEMS:

Due to the excessive time involved for laboratory sample analysis and processing of sampling data, the schedule for delivery of the Phase II RFI/RI Report (Alluvial) milestone is in jeopardy. A request for extension of this IAG milestone is being prepared.

3.2.2 OU 2 REMEDIATION

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD:

None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Proposed IM/IRA Decision Document	19 Jun 90
Submit Proposed Plan IM/IRA Decision Document	18 Sep 90
Submit Draft Responsiveness Summary	13 Dec 90
Submit Final Responsiveness Summary and Final IM/IRA	
Decision Document	11 Jan 91
Field Treatability Test System Installation Complete	10 May 91
Begin Field Treatability Testing (Carbon System)	13 May 91
Submit Draft Proposed Subsurface IM/IRA/EA	02 Mar 92
Submit Draft Treatability Test Report	01 Apr 92
Complete Construction Chemical Precipitation/Microfiltration	24 Apr 92
Begin Operations Chemical Precipitation/Microfiltration	27 Apr 92

MAY WORK ACTIVITY STATUS:

The Draft Proposed Subsurface Interim Measures/Interim Remedial Action Plan/Environmental Assessment and Decision Document (IM/IRA/EA) is in a 60 day public comment period. The public comment period was scheduled to end on May 18, 1992 and was extended by DOE/RFO at the public's request to June 5, 1992. A public meeting to obtain comments on the document was held May 7, 1992. A draft Responsiveness Summary, addressing all comments received is due to EPA/CDH by June 16, 1992.

The final copy of the OU 2 South Walnut Creek Treatability Study Report is being prepared. A preliminary copy of the final report was delivered for internal review during the week of May 25, 1992. The final document is due to the regulatory agencies on June 2, 1992.

PLANNED WORK FOR JUNE:

The GAC treatment unit and the Radionuclide Removal System will continue operations.

Submittal of the OU 2 South Walnut Creek Bench-Scale Treatability Study Report is scheduled to occur on June 2, 1992.

Public comment on the OU 2 Draft Proposed Subsurface Interim Measures/Interim Remedial Action Plan/Environmental Assessment and Decision Document (IM/IRA/EA) is scheduled to be completed on June 5, 1992. A draft Responsiveness Summary, addressing all comments received is scheduled to be submitted to EPA/CDH by June 16, 1992.

PROBLEMS:

Spent GAC and treatment residuals are being stored improperly in the OU 2 area. Resolution of this issue with Waste Programs in order to comply with RCRA requirements is being discussed.

3.3 OU 3 - OFFSITE AREAS

DESCRIPTION:

OU 3 can be divided into two categories based on two main activities. The IAG directs activities according to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This involves assessment of contamination in offsite areas also referred to as IHSSs: Contamination of the Land Surface (IHSS 199), Great Western Reservoir (IHSS 200), Standley Lake (IHSS 201), and Mower Reservoir (IHSS 202). The second category responds to a 1985 out-of-court lawsuit settlement, McKay v. U.S., which directed that the surface soil contamination be remediated. Remedial activities in compliance with the Settlement Agreement (deep disc plowing) began in 1985. The disturbance resulting from remediation is being revegetated with mediocre success. The overall schedule for this activity is determined by the year-to-year success of the revegetation effort and requirements of the land owners.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Past Remedy Report	26 Oct 90
Submit Draft Historical Information/Preliminary Health	
Risk Assessment Report	09 Nov 90
Submit Final Past Remedy Report	02 Apr 91
Submit Final Historical Information/Preliminary Health	
Risk Assessment Report	16 Apr 91
Submit Draft Phase I RFI/RI Work Plan	10 Jul 91
Submit Final Phase I RFI/RI Work Plan	06 Dec 91

MAY WORK ACTIVITY STATUS:

Activities preparing for field work continue. The contract for the OU 3 RI field work was finalized. Development of an approved Health and Safety Plan (HSP) for the field work is the critical path in the schedule to start the field work. With a reasonably quick development of the approved HSP, field work could start June 22, 1992.

On May 8, 1992, DOE/RFO authorized EG&G to begin seasonally required field sampling without the published Federal Register floodplain notification. The next working day, May 11, 1992, sediment sampling began on Great Western Reservoir under the Sitewide surface water and sediment sampling contract. This spring season sampling continued for approximately two weeks and was completed during the week ending May 22, 1992. Shoreline sediment sampling in Standley Reservoir began and will continue into June 1992.

PLANNED WORK FOR JUNE:

Work will continue to obtain access agreements from offsite land owners for field sampling activities. Coordination and planning to begin OU 3 field activities will continue. Field work is scheduled to begin June 22, 1992.

PROBLEMS:

Remedial actions required under the 1985 McKay v. U.S. Settlement Agreement may be in conflict with CERCLA. Tilling of the land surface to mix plutonium contaminated surface soil, as required under the Settlement Agreement, prior to completion of the RI/FS will probably not be allowed by EPA. The remedial action as determined by the RI/FS process, if any, will probably not include plutonium soil mixing through tilling.

OPEN ITEMS:

None

3.4 OU 4 - SOLAR EVAPORATION PONDS

DESCRIPTION:

OU 4 is made-up of five solar evaporation ponds: 207A, 207B series (north, center, south), and 207C. Beginning in the late 1950s, the ponds were used to store and evaporate low-level radioactive process water containing high concentrations of nitrates and treated acidic wastes. The sludge and sediments that resulted from the process were periodically removed and disposed of at the Nevada Test Site.

As technology improved through the early 1960s and 1970s, the ponds were relined with various upgraded materials. However, leakage from the ponds into the soil and ground water was detected. Interceptor trenches were installed in 1971 to collect and recycle ground water contaminated by the ponds and to prevent natural seepage and pond leakage from entering North Walnut Creek. In 1981, these trenches were replaced by the current, larger, interceptor trench system which recycles approximately four million gallons of ground water a year back into the solar evaporation ponds.

No additional process water has been pumped into the ponds since 1983. The interceptor trench system collects and recycles ground water into the solar evaporation ponds continuously. Presently, only the 207B north solar evaporation pond receives contaminated ground water collected by the interceptor system. The ponds are RCRA interim status regulated units that are currently under closure. In order to proceed and characterize the level of contamination at the site, approximately eight million gallons of excess liquid in the ponds must be removed. The removal of this liquid and the redirection and treatment of the ground water by the interceptor trench system are the focus of the Interim Measure/Interim Remedial Action (IM/IRA) dated March 1992, which is scheduled to be operational in 1992.

The March 1992 IM/IRA Plan was developed as a regulatory agency requirement that was not included in the scope outlined in the Interagency Agreement (IAG). DOE attempted to modify an existing permit for water removal and treatment for liquids in the solar ponds and ground water collected by the intercepter trench system, but the regulatory agencies rejected permit modification and required development of an IM/IRA to document operation and use of the proposed water treatment system. The development and implementation of this IM/IRA precedes the IAG scheduled Phase I RFI/ RI fieldwork.

There is an IM/IRA scheduled in the IAG that will be completed after results are collected and analyzed from the Phase I RFI/RI fieldwork. The first draft of the IAG IM/IRA Plan is scheduled for delivery in April 1994.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD:

None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase ! RFI/RI Work Plan Submit Final Phase ! RFI/RI Work Plan 08 Jun 90 26 Nov 91

MAY WORK ACTIVITY STATUS:

CDH granted conditional approval of the Final Phase I RFI/RI Work Plan for OU 4 in a letter to DOE/RFO dated May 8, 1992. Final approval of the Work Plan is dependent on approval of the Sitewide ARARs for the Rocky Flats Plant and submittal of a vadose zone field implementation plan.

The proposals for implementation of the Phase I RFI/RI Work Plan for OU 4 were received on May 8, 1992. Technical evaluations of the proposals are being performed.

Pond sludge chemical stabilization and solidification equipment has been selected and the processing formula has been set. Treatability studies will be completed during the first week in June, when sensitivity of key parameters are established and validated. Field demonstration of Pond 207C process train using surrogate waste occurred in Duncan, Oklahoma at Halliburton on May 28 and 29, 1992.

Modular tank construction for the OU 4 IM/IRA is progressing. The cement foundation rings have been poured. Evaporator installation and modular tanks are scheduled to be completed the first week in July. At that time cold component testing is scheduled to begin.

PLANNED WORK FOR JUNE:

Award of a RFI/RI fieldwork subcontract is expected in June 1992.

Continue Rocky Flats plant permitting process for fieldwork outlined in the Work Plan.

Construction of the temporary surge tanks and water treatment system as outlined in the Final OU 4 IM/IRA document is scheduled to continue.

PROBLEMS:

The delay in removal of sludge from the solar ponds and the requirement for an IM/IRA for the surge tanks has impacted the IAG start of the RFI/RI field activities scheduled for January 1992. The impact, if any, to the IAG milestone for delivery of the RFI/RI Report is being evaluated.

Present lab turnaround durations will also impact the IAG schedule. Estimated durations are 90 days for metals and water quality parameters, 105 days for VOAs and a minimum of 420 days for radioactive isotope samples.

3.5 OU 5 - WOMAN CREEK

DESCRIPTION:

Ten Individual Hazardous Substance Sites (IHSSs), geographically located along or within drainage areas of Woman Creek, have been designated as Operable Unit 5 (OU 5). These IHSSs are identified in the Interagency Agreement (IAG) as the Original Landfill (IHSS 115), Ash Pits (IHSS 133.1-133.4), Incinerator Area (IHSS 133.5), Concrete Wash Pad (IHSS 133.6), Detention Ponds C-1 and C-2 (IHSSs 142.10 and 142.11), and a Surface Disturbance (IHSS 209). Ponds C-1 and C-2 are the only IHSSs located on Woman Creek. The remaining eight IHSSs are located along the banks and/or upland areas that drain into Woman Creek or into the South Interceptor Ditch (SID). In addition to these ten IHSSs, two additional surface disturbances will be investigated in the Phase I OU 5 investigation, a surface disturbance west of IHSS 209 and a surface disturbance south of the Ash Pits (133).

Chemicals that may have been placed in the above IHSSs include commonly used solvents, such as trichloroethylene, carbon tetrachloride, tetrachloroethylene, petroleum distillates, 1,1,1-trichloroethane, dichloromethane, benzene, paint and paint thinners. Metals such as beryllium, uranium. lead, and chromium may also be present. Concerned medias include soils, sediments, surface water, ground water, and air resuspension.

Assessment activities include analysis of existing available data and field work scheduled to begin in the Summer of 1992. Limited historical data is available. For example, the Original Landfill was closed with a soil cover; however, a bottom liner was not installed. Details of the construction of the surface cover are not available, nor is the year the cover was installed.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD:

None

IAG MILESTONE ACCOMPLISHMENTS:

Submit	Draft	Phase	ĺ	RFI/RI	Work	Plan
Submit	Final	Phase	ı	RFI/RI	Work	Plan

05 Apr 91 30 Aug 91

MAY WORK ACTIVITY STATUS:

The proposal for OU 5 Phase I RFI/RI Work Plan implementation was received on May 18, 1992. The technical evaluation commenced on the day the proposal was received. The scheduling and level of effort, in terms of man hours, needs to be expanded and clarified for the Human Health Risk Assessment (HHRA) portion of the proposal. Also, the proposed drilling sub-subcontractor has a history of downtime due to equipment malfunction and delays in getting replacement parts. The bidder was asked to revisit this portion of the proposal.

PLANNED WORK FOR JUNE:

Negotiations and award of the implementation of the RFI/RI Work Plan is planned to occur in June 1992.

Continue development of statements of work (SOWs) for the Environmental Evaluation Work Plan and Ambient Air Monitors.

PROBLEMS:

Field work originally scheduled to begin in the beginning of Fall of 1991, and then postponed until Spring of 1992 due to budgeting uncertainties was further delayed until the Summer of 1992 because of additional revisions of the final OU 5 Work Plan requested by the regulatory agencies. Approval of the final Work Plan was not received until February 1992. The subcontract process was started after approval of the Work Plan and is following "normal" contractual procedures at the Rocky Flats Plant.

3.6 OU 6 - WALNUT CREEK

DESCRIPTION:

This activity encompasses assessment and remediation in the Walnut Creek Drainage of twenty-one Individual Hazardous Substance Sites (IHSSs). They are the A-series Detention Ponds, Ponds A-1 through A-4 (IHSS 142.1 through 142.4 and 142.12); the B-series Detention Ponds, Ponds B-1 through B-5 (IHSS 142.5 through 142.9); the North, Pond, and South Area Spray Fields (IHSS 167.1, 167.2 and 167.3); the East Area Spray Field (IHSS 216.1), the Trenches A, B and C (IHSS 166.1, 166.2 and 166.3); the Sludge Dispersal Area (IHSS 141); the Triangle Area (IHSS 165), and the Old Outfall Area (IHSS 143). One additional site, the Soil Dump Area (IHSS 156.2), was transferred from OU 14 to OU 6 in 1991. Two IHSSs, Property Utilization And Disposal Yard (IHSS 170) and Property Utilization and Disposal Container Storage Facilities (IHSS 174) have been transferred from OU 6 to OU 10. Thirteen ground water monitoring wells will be installed throughout OU 6 to monitor the alluvial aquifer. Five bedrock ground water monitoring wells will be installed in the vicinity of North Walnut Creek during the OU 6 remedial investigation. To characterize the bedrock aquifer in the vicinity of the A-series ponds, up to 9 additional bedrock ground water monitoring wells may be installed.

Sediment samples will be collected from the drainage in OU 6 where existing data are insufficient to adequately characterize the sediments. Sediment sampling has been proposed along each stream segment on North and South Walnut creeks where additional characterization is needed. Based on a review of the data collected at the existing locations along the OU 6 drainage, there is sufficient information about the sediments in many parts of OU 6; therefore, the sampling locations specified in the IAG have been reduced in those areas.

The surface soil sampling has been modified for the Triangle Area (IHSS 165) and the Old Outfall Area (IHSS 143) so that the surface soil samples specified in the IAG will be obtained from the original surface of these units. This will require boring through the overlying fill material down to the original surface to collect samples.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

IHSS 156.2 has been transferred from OU 14 to OU 6 because it is located along the Walnut Creek Drainage. The regulatory agencies felt it would prudent to investigate this IHSS as part of OU 6.

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan 19 Apr 91
Submit Final Phase I RFI/RI Work Plan 16 Sep 91

MAY WORK ACTIVITY STATUS:

OU 6 Phase I RFI/RI Work Plan revisions have been made that respond to CDH's comments, as required in the conditional EPA approval of the Work Plan. Technical Memorandum 1, that revises Section 2, conceptual model, and Section 7, field sampling is being incorporated into the revised Work Plan.

The Request for Proposal (RFP) to implement the Work Plan for the OU 6 remedial investigation was sent out on April 27, 1992. The proposal was received on May 18, 1992. The proposal to implement the RFI/RI Work Plan for OU 6 is being evaluated.

PLANNED WORK FOR JUNE:

Negotiations and award of the implementation of the RFI/RI Work Plan contract is planned for June, 1992. Continued development of statements of work (SOWs) for the Environmental Evaluation Work Plan and Ambient Air Monitors is also scheduled for June.

PROBLEMS:

Field work originally scheduled to begin in the beginning of Fall of 1991, and then postponed until Spring of 1992 due to budgeting uncertainties was further delayed until the Summer of 1992 due to the additional revisions of the final OU 6 Work Plan requested by the regulatory agencies. Conditional approval of the final Work Plan was not received until February 1992. The current delay is due to contractual difficulties because of a possible Organizational Conflict of Interest by a subcontractor writing and implementing the same Work Plan.

OU 7 - PRESENT LANDFILL

DESCRIPTION:

The Present Landfill - Operable Unit (OU) 7 is located north of the plant complex on the western edge of an unnamed tributary of North Walnut Creek and is comprised of two IHSSs. IHSS 114 includes landfill waste and leachate at the Present Landfill, soils beneath the landfill potentially contaminated with leachate, and sediments and water in the East Landfill Pond. IHSS 203 contains potentially contaminated soils at the Inactive Hazardous Waste Storage Area. A section of the Present Landfill located in the southwest corner was used between 1986 and 1987 as a temporary storage area for hazardous waste. The Present Landfill began operation in August of 1968 and was originally constructed to provide for disposal of Rocky Flats Plant's nonradioactive and nonhazardous wastes. In September 1973, tritium was detected in leachate from the landfill. During the mid-1980s extensive investigations were conducted on the waste streams (types) placed into the landfill, and consequently, hazardous wastes/hazardous constituents were identified. Although currently operating as a nonhazardous sanitary landfill, the facility is considered an inactive hazardous waste disposal unit undergoing RCRA closure.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD:

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan

08 Jun 90

Submit Final Phase I RFI/RI Work Plan

28 Aug 91

MAY WORK ACTIVITY STATUS:

Authorization to implement the RFI/RI Work Plan for OU 7 beginning this Fiscal Year was given by DOE/RFO at the beginning of May, 1992.

A letter from CDH giving final approval of the OU 7 RFI/RI Work Plan was received on May 26, 1992. The Request for Proposal for Work Plan implementation is complete and will be sent out for competitive bid during June 1992.

PLANNED WORK FOR JUNE:

The Request for Proposal for Work Plan implementation is complete and will be sent out for competitive bid during June 1992. Contract negotiations for Work Plan implementation are planned for June.

PROBLEMS:

None

3.8 OU 8 - 700 AREA

DESCRIPTION:

The 24 IHSSs which constitute OU 8 encompass separate sites inside and around the production area of the Rocky Flats Plant. Contamination sources within the various IHSSs include above ground and underground tanks, equipment washing areas, and releases inside buildings which potentially affected areas outside the buildings. Contaminants from these sources may have been introduced into the environment through spills on the ground surface, underground leakage and infiltration, and in some cases through precipitation runoff. The chemical composition of the contaminants also varies widely between the IHSSs, ranging from low-level radioactive mixed wastes to nonradioactive organic and inorganic compounds.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD:

During April 1992, 14 IHSSs were transferred from OU 8 and to OU 9 as part of a IHSS realignment pursuant to Part 32, Paragraph 191 (Additional Work or Modification to Work) of the IAG. These IHSS changes were recommended by DOE in the now-approved OU 9 Phase I RFI/RI Work Plan and approved by CDH and EPA in April 1992.

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft RFI/RI Work Plan

01 May 92

MAY WORK ACTIVITY STATUS:

The draft Phase I RFI/RI Work Plan for OU 8 was delivered to the regulatory agencies on May 1, 1992, the IAG milestone date.

CDH sent a Notice of Violation letter to DOE/RFO and EG&G on May 22, 1992 concerning alleged deficiencies in the Draft Phase I RFI/RI Work Plan for OU 8 caused by Procurement delays. CDH has given DOE and EG&G until June 22, 1992 to correct these alleged deficiencies in the OU 8 Work Plan and submit upgrades to the work plan to CDH and EPA for review.

PLANNED WORK FOR JUNE:

Upgrades to the OU 8 Work Plan are scheduled for delivery to EG&G on June 15, 1992 for internal review by EG&G, DOE/RFO and DOE/HQ. Comments are due back to EG&G by June 18, 1992 to meet the submittal deadline to CDH and EPA on June 22, 1992.

PROBLEMS:

CDH sent a Notice of Violation letter to DOE/RFO and EG&G on May 22, 1992 concerning alleged

deficiencies in the Draft Phase I RFI/RI Work Plan for OU 8 caused by Procurement delays. CDH has given DOE and EG&G until June 22, 1992 to correct these alleged deficiencies in the OU 8 Work Plan and submit upgrades to the work plan to CDH and EPA for review.

3.9 OU 9 - ORIGINAL PROCESS WASTE LINES

DESCRIPTION:

This activity involves characterizing a series of tanks and associated process waste lines. The Original Process Waste Lines (OPWL) consisted of a system of 57 designated pipe sections extending between 73 tanks and 24 buildings connected by 35,000 feet of buried pipeline that transferred process wastes from point of origin to onsite treatment plants. The system was placed into operation in 1952, and additions were made to the system through 1975. The original system was replaced over the 1975-1983 period by the new process waste system. Some tanks and lines from the original system have been incorporated into either the new process waste system or the fire water deluge collection system.

The original system is known to have transported or stored various aqueous process wastes containing low-level radioactive materials, nitrates, caustics and acids. Small quantities of other liquids were also introduced in the system, including pickling liquor from foundry operations, medical decontamination fluids, miscellaneous laboratory liquids from Building 123, and laundry effluent from Buildings 730 and 778. The RFI/RI plan includes inspection and sampling of the OPWL tanks and pipelines which are accessible, and soil sampling to determine the extent of contamination in the vadose zone. The soil sampling will be performed by installing test pits and borings where known or suspected releases occurred, near pipe joints and valves, at approximately 200-foot intervals along the pipelines and by installing borings around the tanks which are outdoors. Soil characterization studies will determine the need for soil removal and/or treatment. The results of the RFI/RI will determine the need for interim and/or final remediation action.

During April 1992, 20 IHSSs were transferred from OUs 8, 10, 12, 13, and 15 and added to OU 9 as part of a IHSS realignment pursuant to Part 32, Paragraph 191 (Additional Work or Modification to Work) of the IAG. The IHSSs that were transferred to OU 9 include: 123.2-Valve Vault West of Building 707, 125-Holding Tank, 126.1 and 126.2-Out-of-Service Process Waste Tanks, 127-Low-Level Radioactive Waste Leak, 132-Radioactive Site - 700 Area Site #4, 146.1-146.6-Concrete Process Waste Tanks, 149-Effluent Pipe, 159-Radioactive Site Building 559, 124.1-124.3-Radioactive Liquid Waste Storage Tanks, 147.1-Process Waste Leaks/Maas Area, 122-Underground Concrete Tank, and 215-Tank T-40.

The above IHSSs all constitute part of the Original Process Waste Lines and will be investigated and remediated as such. These IHSS changes were recommended by DOE in the now-approved OU 9 Phase I RFI/RI Work Plan and approved by CDH and EPA in April 1992.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

Although 20 IHSSs were transferred formally to OU 9 in April with respect to the IAG, the transferred IHSSs were always a part of or related to the OPWL and were included in the scope of work for OU 9 prior to transfer.

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan Submit Final Phase I RFI/RI Work Plan 08 Jun 90 26 Nov 91

MAY WORK ACTIVITY STATUS:

EG&G Procurement subcontract activities are currently at a standstill pending the resolution of the Organizational Conflict of Interest (OCI) issue regarding implementation of a Work Plan prepared by the same subcontractor. RFO Procurement has indicated subcontractors preparing Work Plans would have an OCI in performing the work to follow. However, other DOE facilities consider that it is cost effective to use the same subcontractors to prepare Work Plans and the subsequent work. Contingency plans have been implemented to retain an acceptable subcontractor to implement the Phase I RFI/RI Work Plan for OU 9 if the current subcontractor is disallowed to perform the work. Statements of Qualifications were requested from approximately twelve potential subcontractors for pre-evaluation to develop a list of qualified firms for distribution of Requests for Proposals (RFPs) for implementation of the Work Plan under a competitive solicitation. The potential subcontractor distribution list for RFPs will be submitted the week of June 8, 1992.

PLANNED WORK FOR JUNE:

Resolution of the OCI issue is planned to occur in June.

PROBLEMS:

EG&G Procurement subcontract activities are currently at a standstill pending the resolution of the OCI issue regarding implementation of a Work Plan prepared by the same subcontractor. DOE/RFO Procurement has indicated subcontractors preparing Work Plans would have an OCI in performing the work to follow. However, other DOE facilities consider that it is cost effective to use the same subcontractors to prepare Work Plans and the subsequent work.

3.10 OU 10 - OTHER OUTSIDE CLOSURES

DESCRIPTION:

OU 10 is made up of 15 IHSSs scattered throughout the plant which consist of various hazardous waste constituents. Five of the IHSSs are located in the PA, two are located in the buffer zone near the present landfill, and the remaining are located near various buildings throughout the plant. The types of wastes identified at these sites range from pondcrete/saltcrete storage and drum storage to a utilization yard with waste spills. The primary components of the RFI/RI Work Plan for OU 10 will be a Field Sampling Plan (FSP), Baseline Risk Assessment Plan (BRAP), and an EE Work Plan. IRA is scheduled to begin in early 1998.

Three additional IHSSs were transferred from other operable units to OU 10 after the Draft RFI/RI Work Plan was completed in FY90. The Draft Work Plan was based on the draft IAG which was modified during final IAG negotiations. A contract modification was initiated to incorporate the three IHSSs into the Draft Work Plan and to perform general upgrades to the Plan.

During April 1992, IHSSs 124.1-124.3, the Radioactive Liquid Waste Storage Tanks were transferred from OU 10 and added to OU 9 as part of a IHSS realignment pursuant to Part 32, Paragraph 191 (Additional Work or Modification to Work) of the IAG. This change was recommended by DOE in the nowapproved OU 9 Phase I RFI/RI Work Plan and approved by CDH and EPA in April 1992.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD:

None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan Submit Final Phase I RFI/RI Work Plan

27 Nov 91 01 May 92

MAY WORK ACTIVITY STATUS:

A purchase requisition package was prepared to add additional funds for the RFI/RI Work Plan for OU 10. The funds will be used to revise the document based on agency comments from the review and approval period.

PLANNED WORK FOR JUNE:

Continue work on incorporation of EPA and CDH comments in the Final RFI/RI Work Plan.

PROBLEMS:

None

3.11 OU 11 - WEST SPRAY FIELD

DESCRIPTION:

The West Spray Field is located within the Rocky Flats Plant buffer zone immediately west of the plant security area. The West Spray Field was in operation from April 1982 to October 1985. During operation, excess liquids from solar evaporation ponds 207-B North and Center (contaminated ground water in the vicinity of the ponds and treated sanitary sewage effluent) were pumped periodically to the West Spray Field for spray application. The spray field boundary covers an area of approximately 105.1 acres, 38.3 of which received direct application of hazardous waste. The RFI/RI process will entail field studies to determine the presence and levels of hazardous constituents in soil and ground water.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD:

None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan Submit Final Phase I RFI/RI Work Plan

08 Jun 90

02 Jan 92

MAY WORK ACTIVITY STATUS:

A letter from CDH giving conditional approval of the RFI/RI Work Plan for OU 11 was received on May 26, 1992.

The DOE-Realty Officer is meeting with Bureau of Land Management personnel to establish an estimated value for minerals (gravel) in OU 11. There is a legal action pending regarding mining access.

PLANNED WORK FOR JUNE:

The Statement of Work for implementation of the RFI/RI Work Plan for OU 11 is scheduled to be generated.

Incorporation of comments from CDH into the RFI/RI Work Plan for OU 11 is planned.

PROBLEMS:

Western Aggregate has submitted a request to DOE to mine the mineral resources, to which they own the rights, and are located under a portion of the western edge of the Rocky Flats Plant. The land in question is located within OU 11 - West Spray Field. DOE has had preliminary discussions with EPA on this matter, and EPA agrees with DOE that a decision for any mining operations should be delayed until the OU assessment is complete. DOE legal staff is reviewing the request from Western Aggregate. A meeting between the parties was held in September. The DOE Realty Officer is negotiating a mineral

rights exchange which is tentatively scheduled to be completed in the Summer of 1992.

OPEN ITEMS:

None

3.12 OU 12 - 400/800 AREA

DESCRIPTION:

The 400/800 Area involves assessment and remediation of the 12 IHSSs at the 400/800 Area, including: Multiple Solvent Spills at the West and South Loading Dock Areas (IHSSs 116.1 and 116.2); Fiberglassing Areas North and West of Building 664 (IHSSs 120.1 and 120.2); Cooling Tower Ponds - Northeast, South, and West of Building 460 (IHSSs 136.1, 136.2, and 136.3); Process Waste Leaks - Maas and Owen Areas (IHSSs 147.1 and 147.2); Radioactive Site - South Area (IHSS 157.2); Acid Leaks (2) (IHSS 187); and Multiple Acid Spills (IHSS 189).

Assessment will consist of preparing a Phase I RFI/RI Work Plan, which will include both an Environmental Evaluation and a Human Health Risk Assessment. Implementation of this work plan will include fieldwork and sample analysis, data, and the Phase I RI Report. A Feasibility Study to determine the best methods to remediate the area will be conducted as part of the assessment, if remediation is necessary.

Remediation, if appropriate, will consist of development and execution of a Remedial Action Plan based on results obtained during the assessment phase of the project. This process includes review and approval by EPA and CDH, followed by a Record of Decision, release to the public, and implementation of the plan.

During April 1992, IHSS 147.1 (the Process Waste Leaks-Maas Area), was deleted from OU 12 and added to OU 9 as part of a IHSS realignment pursuant to Part 32, Paragraph 191 (Additional Work or Modification to Work) of the IAG. This change was recommended by DOE in the now-approved OU 9 Phase I RFI/RI Work Plan and approved by CDH and EPA in April 1992.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD:

None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan

08 May 92

MAY WORK ACTIVITY STATUS:

The draft RFI/RI Work Plan for OU 12 was submitted to EPA, CDH and the Trustees on May 8, 1992, meeting the IAG milestone.

The draft RFI/RI Work Plan for OU 12 was presented to the Rocky Flats Technical Review Group (TRG) on May 20, 1992. The document is currently undergoing EPA and CDH review.

PLANNED WORK FOR JUNE:

The draft RFI/RI Work Plan for OU 12 is scheduled to be reviewed by the regulatory agencies through August 1992. As part of agency review, a site tour of OU 12 has been requested and scheduled for June 16, 1992.

PROBLEMS:

None

OPEN ITEMS:

Regulatory agency review of draft RFI/RI Work Plan.

3,13 OU 13 - 100 AREA

DESCRIPTION:

Cleanup of the 100 Area involves the assessment and remediation of 15 IHSSs including: Chemical Storage - North, Middle, and South Sites (IHSSs 117.1, 117.2 and 117.3); Oil Burn Pit #1 (IHSS 128); Lithium Metal Destruction Site (IHSS 134); Waste Spills (IHSS 148); Fuel Oil Tank (IHSS 152); Radioactive Site - North Area (IHSS 157.1); Radioactive Site - Building 551 (IHSS 158); Waste Peroxide Drum Burial (IHSS 169); Solvent Burning Ground (IHSS 171); Valve Vault 12 (IHSS 186); Caustic Leak (IHSS 190); and the Hydrogen Peroxide Spill (IHSS 191).

Assessment will consist of preparing a Phase I RFI/RI Work Plan, which will include both an Environmental Evaluation and a Human Health Risk Assessment. After implementation of this work plan, fieldwork and sample analysis will be conducted, data will be analyzed, and the Phase I RI Report will be prepared. A Feasibility Study to determine the best methods to remediate the area will be conducted as part of the assessment.

Remediation will consist of development and execution of a Remedial Action Plan based on results obtained during the assessment phase of the project. This process includes review and approval by EPA and CDH, followed by a Record of Decision, release to the public, and implementation of the plan.

During April 1992, IHSS 122, the Underground Concrete Tank, was transferred from OU 13 and added to OU 9 as part of a IHSS realignment pursuant to Part 32, Paragraph 191 (Additional Work or Modification to Work) of the IAG. This change was recommended by DOE in the now-approved OU 9 Phase I RFI/RI Work Plan and approved by CDH and EPA in April 1992.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD:

None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan

15 May 92

MAY WORK ACTIVITY STATUS:

The draft RFI/RI Work Plan for OU 13 was submitted to EPA and CDH on May 15, 1992, as required under the IAG.

PLANNED WORK FOR JUNE:

The regulatory agencies are reviewing the Work Plan, and their comments are due back on August 13, 1992. A comment summary document containing all comments for the OU 13 draft Work Plan is being prepared.

PROBLEMS:

None

OPEN ITEMS:

Regulatory agency review of draft RFI/RI Work Plan.

3.14 OU 14 - RADIOACTIVE SITES

DESCRIPTION:

Work at the "Radioactive Sites" involves the assessment and remediation of 8 IHSSs, including: Radioactive Site - 700 Area Site #1 (IHSS 131); Radioactive Soil Burial - Building 334 Parking Lot (IHSS 156.1); Building 444 Parking Lot (IHSS 160) and Building 664 (IHSS 161); and Radioactive Site - 700 Area Site #2 (IHSS 162); and Radioactive Sites - 800 Area which includes the Concrete Slab, Building 886 Spills, and the Building 889 Storage Pad (IHSSs 164.1, 164.2, and 164.3, respectively).

Upon finalization of the work plan, implementation of the remedial investigation (RI) field work will begin with the site characterization phase including sample collection, laboratory analysis and data review. A treatability investigation involving bench scale studies will be performed during the latter portion of the RI. A Feasibility Study (FS) will be performed as part of the assessment for the development and screening of treatment alternatives.

Remediation will consist of development and execution of a Remedial Action Plan based on results obtained during the assessment phase of the project. This process includes review and approval by EPA and CDH, followed by a Record of Decision, release to the public, and implementation of the plan.

In April 1992, IHSS 156.2 (Soil Dump Area) was transferred from OU 14 and added to OU 6 as recommended by DOE in the now-approved OU 6 Phase I RFI/RI Work Plan because of the IHSS location along the Walnut Creek Drainage.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD:

None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan

 extended to June 26, 1992 from May 22, 1992.

MAY WORK ACTIVITY STATUS:

Development of the OU 14 Draft RFI/RI Work Plan continues. A milestone extension for submittal of the OU 14 Draft Phase I RFI/RI Work Plan to the regulatory agencies was received on May 14, 1992. The new milestone date is June 26, 1992. All other milestone dates remain unchanged. The five-week extension translates into an additional two and a half weeks for the subcontractor to draft the Work Plan and an expanded review period for DOE.

PLANNED WORK FOR JUNE:

The OU 14 draft Phase I Work Plan is scheduled for delivery to EG&G on June 10, 1992 for Environmental Management intra-departmental review. This review is planned to be followed by DOE review, incorporation of comments and submittal of the Work Plan on June 26, 1992 to the regulatory

3.15 OU 15 - INSIDE BUILDING CLOSURES

DESCRIPTION:

Work at OU 15 involves remediation of seven IHSSs including: Building 881 Drum Storage Area; Building 865 Drum Storage Area; Building 883 Drum Storage Area; Original Uranium Chip Roaster; Unit 16, Building 890 Cargo Container; Unit 26, Building 881 Drum Storage; Unit 63, Building 371 Drum Storage; and Unit 32, Building 881-Cyanide Bench Scale Treatment. Tasks in this activity are for RCRA closure of several drum storage areas and a uranium chip roaster. Eight facilities will undergo RCRA closure as interim status units. Closure Plans for the facilities were submitted to CDH in 1988 and again in 1989. The major activity proposed is characterization and decontamination, if applicable, of the concrete floors at the indoor facilities. Drums and dumpsters containing solids and liquids were stored at these facilities. Types of waste included oils, coolants and solvents containing chlorinated hydrocarbons (RCRA F001 and F002 wastes), waste paints, and waste metals contaminated with solvents. Hazardous constituents include chlorinated solvents, beryllium, and uranium. At most of the facilities, there is visual evidence of soil contamination.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD:

None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan

01 Jun 92*

*The Draft Phase I RFI/RI Work Plan was transmitted to the regulatory agencies on May 27, 1992, five days ahead of the IAG milestone date.

MAY WORK ACTIVITY STATUS:

On May 27, 1992, the draft Phase I RFI/RI Work Plan for OU 15 was transmitted to EPA and CDH, five days ahead of the IAG milestone date, June 1, 1992.

A letter was received by DOE/RFO which informs RFO that written documentation of the removal of IHSS 212 from OU 15 per Part 32, paragraph 191 (Additional Work or Modification) of the IAG should be obtained from CDH and EPA. CDH has indicated that IHSS 212 will not be investigated as part of OU 15. CDH based the removal of IHSS 212 from OU 15 on recent information regarding the status of IHSS 212. IHSS 212 is a currently operating drum storage area (RCRA Unit 63) which is listed in the RCRA Part B Permit for Rocky Flats Plant. RCRA Unit 63 was previously listed as a RCRA Interim Status Unit and closure of Unit 63 was pending.

PLANNED WORK FOR JUNE:

The draft Phase I RFI/RI Work Plan for OU 15 will be at the regulatory agencies for review through the month of June. Comments are expected to be received in July 1992.

PROBLEMS:

None

OPEN ITEMS:

Regulatory agency review of draft RFI/RI Work Plan.

3.16 OU 16 - LOW-PRIORITY SITES

DESCRIPTION:

OU 16 assessment activity consists of preparing a "No Further Action Justification Documents" for seven IHSSs, including: Solvent Spill, Antifreeze Discharge, Steam Condensate Leaks, Nickel Carbonyl Disposal, Water Treatment Plant Backwash Pond, and Scrap Metal Sites. In addition, the Rocky Flats Plant must review the document, resolve comments, and finalize the draft. The regulatory agencies will then review the justification and render a decision.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD:

None

IAG MILESTONE ACCOMPLISHMENTS:

Submit draft "No Further Action Justification"

04 Mar 92

MAY WORK ACTIVITY STATUS:

None

The contract was awarded May 19, 1992 to prepare the final "No Further Action Justification Document". A meeting has been set up with EPA on June 1, 1992 regarding their concerns with the draft.

PLANNED WORK FOR JUNE:

Work needed to revise the No Further Action Justification document will continue. Agency concerns regarding the draft will be incorporated into the final document.

PROBLEMS:

None

OPEN ITEMS:

None

3.17 SITEWIDE ACTIVITIES

DESCRIPTION:

Sitewide activities include several tasks that encompass a wide variety of plans, procedures, reports, studies, and other activities required by the IAG and that apply to Rocky Flats Plant environmental restoration activities in general. The activities include, but are not limited to, the Health and Safety Plan, a Sampling and Analysis Plan, a Plan for Prevention of Contaminant Dispersion, the Community Relations Plan, the Discharge Limits for Radionuclides Work Plan, Treatability Study deliverables, the Background Study Plan, Administrative Record, State Response (support for CDH oversight), Historical Release Report, Operations Management, Decontamination Facilities, Contractor yard support, ER Waste handling facilities, geologic characterization, hydrogeologic characterization, and ground water monitoring.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD:

None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Background Study Report (Water)	15 Dec 89
Submit Draft Background Study Report (Soils)	15 Dec 89
Submit Draft Community Survey Plan	23 Jan 90
Submit Final Community Survey Plan	22 Mar 90
Submit Draft Health and Safety Plan	15 Aug 90
Submit Draft Quality Assurance Project Plan	29 Aug 90
Submit Draft Standard Operating Procedures	29 Aug 90
Submit Draft Plan for Prevention of Contaminant Dispersion	19 Sep 90
Submit Draft Treatability Study Plan	21 Sep 90
Submit Draft Community Relations Plan	01 Nov 90
Submit Final Health and Safety Plan	12 Nov 90
Submit Revised Background Study Report	21 Dec 90
Submit Final Community Relations Plan	22 Jan 91
Submit Final Quality Assurance Project Plan	01 Mar 91
Submit Final Standard Operating Procedures	01 Mar 91
Submit Draft Radionuclides Discharge Limits Plan	05 Apr 91
Submit Community Relations Plan Responsiveness Summary	21 Jun 91
Submit Final Treatability Study Plan	03 Jun 91
Submit Final Plan for Prevention of Contaminant Dispersion	22 Jul 91
Submit Final Plan Discharge Limits Radionuclides	16 Sep 91
Submit Final PPCD and Responsiveness Summary	25 Nov 91
Submit Draft Historical Release Report	08 Jan 92
Submit Responsiveness Summary for DLRP	31 Jan 92
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MAY WORK ACTIVITY STATUS:

Protected Area (PA) Interim Measure (IM)/Interim Remedial Action Plan (IRAP)

Currently the PA contains all or portions of ten Operable Units (OUs) which are scheduled for Remedial Investigations (RIs). It may be advantageous to defer the RI process within the PA until a time when it is no longer impacted by security concerns. The resulting benefits would be a reduction in operating costs attributed to the ease of operating in a less restrictive working environment, and a better coordination of investigative and remedial effort resulting from the consolidation of geographically similar OUs.

A preliminary project plan was prepared to guide direction for the assembly of an IM/IRAP. The IM/IRAP would provide a plan under which contaminant sources, potential migration pathways, and potential sensitive receptors for known PA contamination are identified, and alternatives are proposed to stabilize or mitigate any immediate human health or environmental risks. The plan would assess and interpret current data with respect to potential exposure pathways and potential sensitive receptors. It would also define the Applicable or Relevant and Appropriate Requirements (ARARs) and applicable environmental regulations. The IM/IRAP will also identify and screen IM/IRA alternatives and provide documentation to aid the National Environmental Policy Act (NEPA) in determination of the environmental impacts of a proposed action.

A statement of work continues to be prepared to initiate the production of a PA/IRAP.

Community Relations Activities

A meeting was conducted on May 20, 1992 for the Technical Review Group (TRG) during which an overview of OU 8, OU 12, OU 13, OU 14 and OU 15 were presented. Also discussed was an overview of the draft RFI/RI Work Plans for each of the OUs.

Historical Release Report

Work continued on incorporation of comments into the draft HRR and preparation of the Final document.

Administrative Record

Preparation of the quarterly update of the Administrative Record (AR) File continued. The updates are scheduled to be distributed to the repositories on June 3, 1992.

PLANNED SITEWIDE WORK FOR JUNE:

Continue development of the Protected Area Interim Remedial Action Plan (PA/IRAP)

The Final Historical Release Report is scheduled to be delivered to the regulatory agencies on June 3, 1992, the IAG milestone date.

An updated version of the microfiche and Index for Operable Unit 4 and Sitewide Administrative Record Files is scheduled to be delivered to the four repositories, Rocky Flats Reading Room, Rocky Flats

Environmental Monitoring Council , CDH and EPA, on June 3, 1992.

PROBLEMS:

ROUTINE ENVIRONMENTAL MONITORING

The following generalized sampling schedule for Routine Environmental Monitoring is provided as requested in Section 210 of the IAG. Detailed quarterly monitoring schedules are prepared in advance and are available to EPA and CDH upon request from the Environmental Monitoring and Assessment Division, Environmental Management Department, and EG&G Rocky Flats, Inc. The schedules are lengthy; therefore, they are not reproduced here. An EPA- or State-authorized representative may make arrangements to observe fieldwork and to obtain split or duplicate samples.

SURFACE WATER AND SEDIMENTS:

Each of the Surface Water Stations (approximately 120 stations) are sampled monthly.

Each of the Sediment Stations (approximately 40 stations) are sampled quarterly.

Each surface water and sediment sample is analyzed for the following parameters:

CLP TCL VOAs **CLP TAL Metals** plus Cesium Lithium Molybdenum Strontium

Major Anions Radionuclides Field Parameters Temperature

Specific Conductivity Dissolved Oxygen (DO) Tin

Turbidity

SOILS:

Each of the Soil Stations (located at 1- and 2-mile radii from the plant center) are sampled annually.

Each soil sample is analyzed for plutonium and americium.

GROUND WATER:

A total of 259 of the 371 total Ground water Stations are sampled quarterly; this includes alluvial wells, bedrock wells, and pre-1986 wells. Approximately one third of the wells are monitored monthly for water levels.

Each ground water sample is analyzed for CLP, TCL, VOAs, CLP, TAL, Metals, as well as the following parameters:

Radiochemical Parameters Gross Alpha Tritium Gross Beta Lithium Plutonium Uranium Cesium Americium Strontium Tin Molybdenum

Inorganic Parameters Nitrate/Nitrite Total Phosphorous Ortho-Phosphate Ammonia

Field Parameters Dissolved Oxygen (DO) Specific Conductivity Temperature Turbidity рН

5.0 CONTRACTOR/SUBCONTRACTOR IDENTIFICATION

Contractors and subcontractors being used on the Rocky Flats Plant Environmental Restoration Program and the work they are performing are identified on the following list as required by paragraph 13 of the IAG.

			SUB-		START
οu	PROJECT	SUBCONTRACTOR	SUBCONTRACTOR	WORK DESCRIPTION	DATE
1	Assessment	Ebasco	Dames & Moore Stoller Corp.	OU1 RFI/RI fieldwork (drilling, well development/ completion, sampling) and RI report	Apr-91
1	Remediation	Bruner		OU1 IRA ion exchange system	Feb-91
2	Assessment	Woodward-Clyde		OU2 RFI/RI Work Plan (alluvial & bedrock) and RI fieldwork (drilling, well completion/development)	Sep-90
2	Remediation	Riedel Env. Svcs.		Fabricate/install/operate GAC/FTU system for South Walnut Creek Phase of OU2 IRA.	Apr-91
2	Remediation	Weston		IRAP, EA, Risk Assessment, and Historical Assessment for Woman Creek	Jun-91
2	Remediation	Woodward-Clyde		Conduct bench-scale tests on surface water	May-91
2	Remediation	Resources Tech.		Mfg/Install chemical precipitation/filtration unit for South Walnut Creek Phase of OU 2 IRA	Dec-91
3	Assessment	IT Corporation	CH2M Hill	Revegetate offsite lands	Jun-91
3	Assessment	IT Corporation		Implementation of OU 3 RFI/RI Work Plan	Jun-92
4	Assessment	IT Corporation	Applied Environ.	OU4 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Sep-91
5	Assessment	тво		Implementation of OU5 RFI/RI Work Plan	TBD
6	Assessment	TBD		Implementation of OU6 RFI/R! Work Plan	TBD
7	Assessment	ТВО		Implementation of OU7 RFI/RI Work Plan	TBD
8	Assessment	ASI		OUB RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Mar-92
9	Assessment	ТВО		Implementation of OU9 RFI/RI Work Plan	TBD
10	Assessment	Ebasco	,	OU10 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Jun-90
11	Assessment	IT Corporation		OU11 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Oct-91
12	Assessment	Allied Environ		OU12 RFI/RI Work Plan including Enviornmental Evaluation Plan and Quality Assurance Addendum	Mar-92
13	Assessment	IT Corporation		OU13 RFI/RI Work Plan including Enviornmental Evaluation Plan and Quality Assurance Addendum	Mar-92

ου	PROJECT	SUBCONTRACTOR	SUB- SUBCONTRACTOR	WORK DESCRIPTION	START DATE
14	Assessment	Ebasco	·	OU14 RFI/RI Work Plan including Enviornmental Evaluation Plan and Quality Assurance Addendum	Apr-92
15	Assessment	Ebasco	Stoller	OU15 RFI/RI Work Plan including Enviornmental Evaluation Plan and Quality Assurance Addendum	Apr-92
16	Assessment	IT Corporation		Prepare No Further Action Justification Document	May-92
sw	Hist. Rel. Rep.	IT Corporation	Doty & Assoc.	Prepare Historical Release Report	Feb-91
sw	PCB Assess.	Ebasco	Stoller Corp.	Prepare PCB Assessment Report	Jan-92
sw	Adm. Record	QuantaLex		Maintain IAG Administrative Record	Oct-90
sw	Geolog. Char.	ASI		Geologic Characterization, Data Base, and graphics	Feb-90
sw	Monitoring	Ebasco		Analytical Services for groundwater, surface water, and sediment	Dec-90
sw	Monitoring	IT Corporation		Analytical Services for groundwater, surface water, and sediment	Jul-90
SW	Fld. Oversigh	Ebasco	Stoller Corp.	ER field operations oversight	Oct-90
SW	Treatability	Ebasco		Sitewide treatability studies - Pu contaminated soils	Apr-90
sw	Treatability	Woodward-Clyde		Technical evaluation of sitewide treatability studies	Jul-90
SW	PPCD	Ebasco	,	Plan for Prevention of Contaminant Dispersion	Jun-90
SW	QA	Ebas∞	SAIC	Develop and implement quality assurance program and field operations oversite	Dec-90
PM	Support	Ebasco	Stoller Corp.	Program Management Support	Feb-90